

The Effect of TQM Practices on Corporate Performance and Competitive Advantage as Mediating Variable: Study at Manufacturing Companies in Makassar, South Sulawesi Province

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Abstract

This study conducts a comprehensive review of the literature and develops a framework that links among TQM practices, competitive advantage, and corporate performance. The paper provides empirical support for direct and indirect effects of TQM practices on competitive advantage and corporate performance. The purpose of this research is to empirically investigate the impact of TQM practices on competitive advantage and corporate performance. The study utilized primary data obtained from a questionnaire method. 167 manufacturing companies were surveyed in Makassar, South Sulawesi. A total of 114 completed questionnaires were returned as final sample. Four hypotheses have been developed through literature review and tested using Structural Equation Modeling (SEM) by software of IBM SPSS and AMOS version 20. The result shows that TQM practices has significant effect on corporate performance and competitive advantage directly. TQM practices has significant effect on corporate performance through competitive advantage. Competitive advantage has significant effect on corporate performance. Corporate performance is more influenced by competitive advantage than TQM practices.

Keywords: *TQM Practices, Competitive Advantage, Corporate Performance, Quality Management, Operation Management*

Abstrak

Penelitian ini melakukan review terhadap literatur dan mengembangkan sebuah kerangka kerja yang menghubungkan antara praktik TQM, keunggulan bersaing, dan kinerja perusahaan.

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Penelitian ini menyediakan bukti empiris yang membuktikan adanya pengaruh langsung dan tidak langsung praktik TQM terhadap keunggulan bersaing, dan kinerja perusahaan. Tujuan penelitian ini adalah menguji secara empiris dampak praktik TQM terhadap keunggulan bersaing, dan kinerja perusahaan. Penelitian ini menggunakan data primer sebagai data utama yang diperoleh dari kuesioner. Terdapat 167 perusahaan manufaktur di Kota Makassar, Provinsi Sulawesi Selatan yang menjadi populasi. Jumlah sampel penelitian yang diperoleh adalah sebanyak 114 responden. Ada 4 hipotesis yang dikembangkan dari kajian literatur dan diuji pengaruhnya dalam model penelitian. Pengujian hipotesis menggunakan analisis model persamaan struktural (SEM). Pengolahan data menggunakan bantuan perangkat lunak IBM SPSS dan AMOS versi 20.00. Hasil penelitian menunjukkan bahwa praktik TQM mempunyai pengaruh langsung yang signifikan terhadap keunggulan bersaing, dan kinerja perusahaan. Praktik TQM mempunyai pengaruh terhadap kinerja perusahaan secara tidak langsung melalui keunggulan bersaing. Keunggulan bersaing mempunyai pengaruh signifikan terhadap kinerja perusahaan. Kinerja perusahaan lebih besar dipengaruhi oleh keunggulan bersaing daripada praktik TQM.

Kata kunci: Praktik TQM, Keunggulan Bersaing, Kinerja Perusahaan, Manajemen Mutu, Manajemen Operasional.

1. Introduction

In today's changing and developing global world, both service and manufacturing companies are confronted with a challenging and increasingly competitive environment. Especially manufacturing industry, they should be able to create conditions that support them both in the domestic and international markets. Adopting and implementing a set of operations management practices was one of many ways to win the competition in the marketplace.

There were many forms of best management practices in operation management area i.e. Just In Time (JIT) systems, Material Requirement Planning (MRP), Six Sigma, Lean Manufacturing, Enterprises Resources Planning (ERP), Supply Chain Management (SCM), and Total Quality Management (TQM). One of the best forms of operations management practices is Total Quality Management (TQM). It has received great attention in the last two decades (Jung and Wang, 2006).

Total quality management (TQM) principles and techniques are now a well accepted part of almost every manager's tool kit. According to Powell (1995), most large firms have adopted TQM in some form, and official quality awards are a badge of honor whether a company is operating in Japan, the USA, Europe, or Australia. Implementing TQM is a major organizational change that requires a transformation in the organization's culture, processes, strategic priorities, and beliefs, among others.

Quality has become one of the most important factors in global competition today. Intensifying global competition and increasing demand by customers for better quality have caused more and more companies to realize that they will have to provide quality product and /or services in order to successfully compete in the marketplace. To meet the challenge of this global revolution, many businesses have invested substantial resources in adapting and implementing total quality management (TQM) practices.

TQM is defined as an action plan to produce and deliver commodities or services, which are consistent with customers' needs or requirements by better, cheaper, faster, safer, easier processing than competitors with the participation of all employees under top management leadership (Lakhal et al., 2006). Therefore, manufacturing companies in global competition today should be focus to quality. Attention to quality generates positive impact to business performance through two ways i.e. (1) the impact on production costs and; (2) the impact on earnings (Gaspersz, 2005). In general, an organization can have one or more of the following capabilities when compared to its competitors: lower prices, higher quality, higher dependability, and shorter delivery time. These capabilities will, in turn, enhance the organization's overall performance (Mentzer et al., 2000).

An organization offering high-quality products can charge premium prices and thus increase its profit margin on sales and return on investment (ROI). An organization having a short time-to-market and rapid product innovation can be the first in the market thus enjoying a higher market share and sales volume (Li et al., 2006). The previous studies which test the relationship between TQM practice and organizational performance have been done by researchers. For example, Samson and Terziovski (1999) examine the effect of total quality management practices on operational performance of a large number of manufacturing companies (1200 Australian and New Zealand manufacturing organizations).

The study reveals that the relationship between TQM practice and organizational performance is significant in a cross-sectional sense, but not all of the categories of TQM practice were particularly strong predictors of performance. The categories of leadership, management of people and customer focus were the strongest significant predictors of operational performance. The other empirical studies that investigate the relationship between TQM practices and company performance (e.g. Samson and Terziovski, 1999; Flynn and Saladin, 2001; Sila and Ibrahimpour, 2005; Li et al., 2006; Lakhal et al., 2006). Generally, many researchers find out a positive effect between TQM practices and performance.

Based on both the review of literature and previous research, it is known that TQM practices have a direct positive impact on firm performance. TQM also lead to an increase in the competitiveness of enterprises. However, it is not known how large a role as a mediating influence the competitiveness of TQM on performance. While there were lack of the studies which investigate the relationship between TQM practices, competitive advantage and organizational performance. Therefore, the purpose of this study is to empirically test a framework identifying the relationships among TQM practice, competitive advantage, and corporate performance. TQM practice is directly and indirectly related to corporate performance by mediating role of competitive advantage. Then, This study also aim to investigate the mediating role played by competitive advantage in the explanation of the relationship between TQM practices and corporate performance at manufacturing industries in Makassar, South Sulawesi Province, Indonesia.

2. Literature Review

2.1. Total Quality Management

The concept of Total Quality Management (TQM) not only as management philosophy and management principles but also as a set of strategies and practices that can be used to enhance both competitiveness and corporate performance through customer satisfaction.

Although the literature on total quality management includes a rich spectrum of research, there is no consensus on the definition of quality. The notion of quality has been defined in different ways by different authors. Gurus of the total quality management disciplines such as Garvin, Juran, Crosby, Deming, Ishikawa and Feigenbaum defined the concept of quality and total quality management in different ways.

Garvin proposed a definition of quality in terms of the transcendent, product based, user based, manufacturing based and value based approaches. Garvin also identified eight attributes to measure product quality (Garvin, 1987). Juran defined quality as "fitness for use". Juran focused on a trilogy of quality planning, quality control, and quality improvement. Crosby defined quality as "conformance to requirements or specifications". According to Crosby, requirements are based on customer needs. Crosby identified 14 steps for a zero defect quality improvement plan to achieve performance improvement (Kruger, 2001).

According to Deming, quality is a predictable degree of uniformity and dependability, at low cost and suited to the market. Deming also identified 14 principles of quality management to improve productivity and performance of the organization. Ishikawa also emphasized importance of total quality control to improve organizations' performance. He contributed to this area by using a cause and effect diagram (Ishikawa diagram) to diagnose quality problems (Kruger, 2001).

Feigenbaum describes the concept of organization wide total quality control. He was the first user of total quality control concept in the quality literature. He defined quality as "the total composite product and service characteristics of marketing, engineering, manufacturing and maintenance through which the product and service in use will meet the expectations by the customer" (Kruger, 2001).

Major common denominators of these quality improvement plans include management commitment, strategic approach to a quality system, quality measurement, process improvement, education and training, and eliminating the causes of problems. Total quality management is the culture of an organization committed to customer satisfaction through continuous improvement. This culture varies both from one country to another and between different industries, but has certain essential principles which can be implemented to secure greater market share, increased profits, and reduced costs (Kanji and Wallace, 2000).

Management awareness of the importance of total quality management, alongside business process reengineering and other continuous improvement techniques was stimulated by the benchmarking movement to seek, study, implement and improve on best practices (Zairi and Youssef, 1995). The commitment to continuous improvement historically originated in manufacturing firms; but spread quickly to the service sector (e.g. teller transactions in banks, order processing in catalog firms, etc.).

Furthermore, to determine critical factors of total quality management, various studies have been carried out and different instruments were developed by individual researchers and institutions such as Malcolm Baldrige National Quality Award (MBNQA), EFQM (European Foundation For Quality Management), and the Deming Prize Criteria. Based on these studies, a wide range of management issue, techniques, approaches, and systematic empirical investigation have been generated.

Saraph *et al.* (1989) developed 78 items, which were classified into eight critical factors to measure the performance of total quality management in an organization. These critical factors are role of divisional top management and quality policy, role of the quality department, training, product and service design, supplier quality management, process management, quality data and reporting, and employee relations. Flynn *et al.* (1994) developed another instrument to determine critical factors of total quality management. They have identified seven quality factors. These are top management support, quality information, process management, product design, workforce management, supplier involvement, and customer involvement. As it is seen, this instrument is similar to the preceding instrument that was developed by Saraph *et al.* (1989).

In another noteworthy study, Anderson *et al.* (1994) developed the theoretical foundation of quality management practice by examining Deming's 14 points. They reduced the number of concepts from 37 to 7 using the Delphi Method. These are visionary leadership, internal and external cooperation, learning, process management, continuous improvement, employee fulfillment, and customer satisfaction.

Black and Porter (1996) also identified critical factors of the total quality management using the Malcolm Baldrige National Quality Award (MBNQA) criteria and investigated their validity by empirical means. They developed 32 items, which were classified into ten critical factors. These factors are corporate quality culture, strategic quality management, quality improvement measurement systems, people and customer management, operational quality planning, external interface management, supplier partnerships, teamwork structures, customer satisfaction orientation, and communication of improvement information. Various authors have also assessed the validity of Malcolm Baldrige Award Criteria (Flynn and Saladin, 2001).

Ahire *et al.* (1996) developed twelve integrated quality management constructs through detailed analysis of literature to determine critical factors of quality management of organizations. They identified twelve factors. These are supplier quality management, supplier performance, customer focus, statistical process control usage, benchmarking, internal quality information usage, employee involvement, employee training, design quality management, employee empowerment, product quality, and top management commitment.

Motwani (2001) visualizes TQM as constructing a house. First, putting top management commitment to TQM as the base or foundation. Without a strong foundation, the house will never stand. Once the foundation is in place, attention should be given to employee training and empowerment, quality measurement and benchmarking, process management, and customer involvement and satisfaction. These factors can be viewed as the four pillars of a house. Once the pillars are being put in place and enriched, it is time to incorporate the factors of vendor quality management and product design.

These are the final elements to achieving TQM. According to the literature review, there were no consensus among authors about the critical factors of TQM. One problem in reaching consensus on dimensions is the broad range of approaches used by various TQM authors. Based on the above, the dimensions of the TQM practices used in this study are leadership, strategic planning, customer focus, information and analysis, people management, process management, and supplier management.

2.2. Competitive Advantage

Competitive advantage is the extent to which an organization is able to create a defensible position over its competitors (Porter, 1985 and Barney, 1991). It comprises capabilities that allow an organization to differentiate its self from its competitors and is an outcome of critical management decisions. The concept of competitive advantage has diverse interpretations in the literature. None of the authors who claim the concept of competitive advantage as the "standard definition" which is acceptable to all author. The competitive advantage of an organization can determine the company performance. Therefore, competitive advantage which created by the practice of TQM should be able to improve the company performance.

The empirical literature has been quite consistent in identifying price/cost, quality, delivery, and flexibility as important competitive capabilities (Tracey et al., 1999). On the basis of prior literature Koufteros describes a research framework for competitive capabilities and define the following five dimensions i.e. competitive pricing, premium pricing, value to customer quality, dependable delivery, and production innovation (Li et al., 2006). Based on the above, the dimensions of the competitive advantage which used in this study are cost, delivery dependability, product innovation, and time to market.

2.3. Corporate Performance

Performance measurement is very important for the effective management of an organization. Organizational performance refers to how well an organization achieves its market-oriented goals as well as its financial goals (Li et al., 2006). Corporate performance is not often described in detail by academics. The traditional approach to performance measurement using solely financial performance measure is flawed. A number of prior studies have measured organizational performance using both financial and market criteria, including return on investment (ROI), market share, profit margin on sales, the growth of ROI, the growth of sales, and the growth of market share (Stock et al., 2000). Based on the above, the dimensions of corporate performance which used in this study are ROI, market share, sales, and productivity.

3. Research Framework and Hypotheses

Figure 1. constitutes the research framework developed in this research. The framework proposes that TQM practices will have an impact on corporate performance both directly and indirectly through competitive advantage.

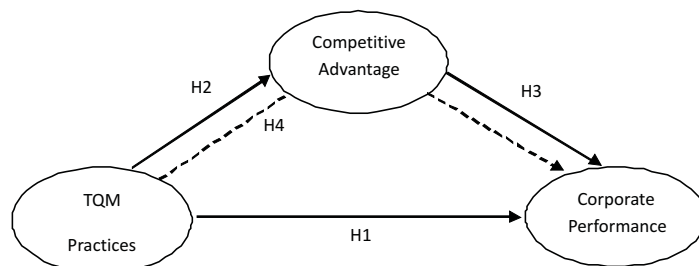


Figure 1. Research Framework

Based on figure above, four hypotheses to be tested are shown in figure 1. They are as follows:

- H1 : Total Quality Management (TQM) practices have significant effect on corporate performance
- H2 : Total Quality Management (TQM) practices have significant effect on competitive advantage
- H3 : Competitive advantage have significant effect on corporate performance
- H4 : Total Quality Management (TQM) practices will be able to improve the corporate performance through competitive advantage

4. Research Method

This study was used quantitative approach. This study sought to choose respondents who can be expected to have the best knowledge about the operation of quality management in the organization. So, it was decided to choose managers who are at higher managerial levels as respondents for the current study. The information about the companies was obtained from the Statistical Bureau Center of Makassar, South Sulawesi Province (2010). The population of this study consisted of registered manufacturing companies in Makassar. There were 167 manufacturing firms registered in the year 2010. A total of 167 manufacturing companies were surveyed which include both medium and large scale companies identified. Large and medium-scale enterprises selected as the population and sample because they have implemented TQM elements in their operations.

The data used in this study were obtained from a questionnaire method. The questionnaires mailed by post in part, and the rest delivered directly by researchers at company sample. A total of 114 completed questionnaires were returned. Thus, the final sample for the study consisted of 114 companies which represents a (114/167) 68.3 percent response rate.

There were three variables studied, namely: Total Quality Management (TQM) practices, competitive advantage, and corporate performance. Total Quality Management (TQM) practices as exogenous variable. While competitive advantage, and corporate performance as endogenous variables. Seven items were used to measure TQM practices in organizations based on the aspects leadership, strategic planning, customer focus, information and analysis, people management, process management, and supplier management (Sila and Ibrahimpour, 2005). The competitive advantage variable was measured by cost, delivery dependability, product innovation, and time to market (Li *et al.*, 2006; Han *et al.*, 2007). Corporate performance was measured based on the aspects return on investment (ROI), market share, sales, and productivity (Stock *et al.*, 2000; Han *et al.*, 2007).

Furthermore, overall indicators in the questionnaire of the study uses five-point Likert scale was employed for scoring responses (1 = strongly disagree; 2 = disagree; 3 = neutral; 4 = agree; 5 = strongly agree). For interpretation purpose, the scale is changed into interval class as follows: (1) 1.00 to 1.80 = very low; (2) 1.81 to 2.60 = low; (3) 2.61 to 3.40 = high enough, (4) 3.41 to 4.20 = high; and (5) 4.21 to 5.00 = very high (Sugiyono, 2008). The validity instrument is tested by Product Moment Correlation. An instrument has high validity if r -value > 0.30 (Cooper and Emory, 2002). Reliability of constructs was tested with Cronbach's α . As suggested by Hair *et al.* (1998) the cut off point for Cronbach's α was > 0.60 . In addition, Kline (1998) pointed out that a reliability coefficient of around 0.90 can be considered "excellent", values of around 0.80 as "very good," and values of around 0.70 as "adequate", depends on the questions. The results of validity and reliability test presented in Table I.

Table 1. Results for Validity and Reliability Test

No.	Variables/Indicators	Correlation (r)	Cronbach's α	Description
1.	TQM Practices (X)		0.810	Reliable
	Leadership	0.577		Valid
	Strategic planning	0.640		Valid
	Customer focus	0.444		Valid
	Information and analysis	0.508		Valid
	People management	0.711		Valid
	Process management	0.488		Valid
	Supplier management	0.543		Valid
2.	Competitive Advantage (Y1)		0.719	Reliable
	Cost	0.466		Valid
	Delivery dependability	0.678		Valid
	Product innovation	0.552		Valid
	Time to market	0.445		Valid
3.	Corporate Performance (Y2)		0.872	Reliable
	Return on investment (ROI)	0.398		Valid
	Market share	0.482		Valid
	Sales	0.445		Valid
	Productivity	0.580		Valid

Source: Primary data, processed

Based on the table, value of correlation (r) and Cronbach's α were above the criteria standard. So, it could be concluded that the instrument which used in this study was valid and reliable. The method of analysis use both descriptive analysis and Structural Equation Modeling (Hair *et al.*, 1998; Solimun, 2006).

5. Results and Discussion

Respondents of this study have quite different characteristics. Diversity can be seen from the personal data of respondents including sex, age, position, and educational level in the organization. A total 114 respondents which participated in this study. The majority of respondent who participated in this research was male gender (84%), aged between 30 to 40 years (63%), they have position in their company as a production manager and operations (53%). The level of education was Bachelor degree (75%). Furthermore, the research variables tested in this study consisted of three variables, namely Total Quality Management (TQM) practices, competitive advantage, and corporate performance. The level perception of respondent on variables could be seen from mean value on every items or indicators. Value of loading factor is used for analysis of dominant indicator on every variable in this study. Complete result could be seen at table below (Table II).

Table 2. Results for Mean and Loading Factor Value

No.	Variables/Indicators	Mean	Loading Factor
1.	TQM Practices (X)	3.83	
	Leadership	4.45	0.811
	Strategic planning	4.11	0.742
	Customer focus	3.88	0.570
	Information and analysis	4.10	0.658
	People management	3.66	0.709
	Process management	3.20	0.552
	Supplier management	3.44	0.612
2.	Competitive Advantage (Y1)	3.70	
	Cost	4.08	0.833
	Delivery dependability	4.16	0.769
	Product innovation	3.36	0.802
	Time to market	3.18	0.528
3.	Corporate Performance (Y2)	3.72	
	Return on investment (ROI)	3.77	0.580
	Market share	3.65	0.721
	Sales	3.71	0.665
	Employee Productivity	3.75	0.799

Source : Primary data, processed

The table reveals that average value (mean) of TQM practices variable was in high/good category (3.83), leadership as the higher indicator than others (4.45), and process management as lower indicator (3.20). Variable of competitive advantage was in high/good category (3.70), delivery dependability as the higher indicator than others (4.16), and time to market as lower indicator (3.18). Corporate performance was in high/good category (3.71), Return on investment (ROI) as the higher indicator than others (3.77), and market share as lower indicator (3.65).

Furthermore, it could be explains that dominant indicator that determine TQM practices variable was leadership (0.811). Cost as dominant indicator that determine competitive advantage variable, and employee productivity as dominant indicator that determine corporate performance variable. They have higher loading factor value than others. The theoretical framework illustrated in figure 1 has four hypothesized relationships among the variables TQM practices, competitive advantage, and corporate performance. Table III displays the result of structural model which performed by IBM AMOS and SPSS 20.

Table 3. Results of the Structural Model

Hypothesis	Relationship	Mediating Variable	Direct effect	Indirect effect	Description
H1	TQM Practices ----> Corporate Performance	-	0.299 (3.410)	-	Supported
H2	TQM practices ----> Competitive Advantage	-	0.722 (6.480)	-	Supported
H3	Competitive Advantage ----> Corporate Performance	-	0.336 (4.357)	-	Supported
H4	TQM Practices ----> Corporate Performance	Competitive Advantage	-	0.243	Supported

Source: Primary data, processed

The mediating test should be done to know more clearly the role of competitive advantage in relationship with the effect of TQM practices on corporate performance. In this study, competitive advantage could be as complete mediation, partial mediation or non variable mediation (Solimun, 2006). The test results of mediation variables are presented in figure 2 and 3 as follow.

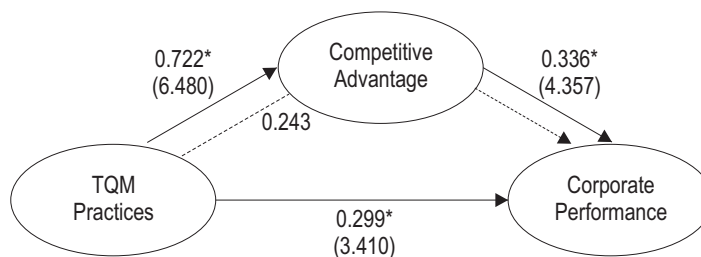


Figure 2. The Result of Mediating Variable Test (Involving Competitive Advantage Variable)

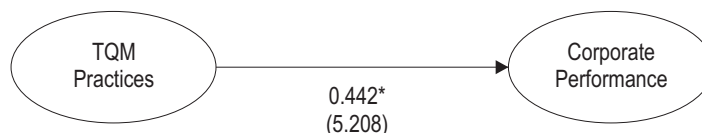


Figure 3. The Result of Mediating Variable Test (Without Competitive Advantage Variable)

From the test results above, it can be seen that the coefficient of TQM practices on corporate performance without the involvement of competitive advantage as a mediating variable is 0.442, whereas after involving competitive advantage as a mediating variable, the value of coefficient TQM practices on corporate performance decreased to 0.299. In accordance with the rules of examination of mediating variables, it can be concluded that the role of competitive advantage can be mentioned as partial mediation. The results of the structural model which is presented in the table show support for all the hypotheses.

Hypothesis 1, which states that Total Quality Management (TQM) practices has significant effect on corporate performance is accepted. The standardized coefficient is 0.299, which is statistically significant at prob.<0.05 ($t=3.410$). This result confirms that the implementation TQM practices may directly improve an corporate performance in all aspects in the long run. Hypothesis 2 is also supported, which indicates that Total Quality Management (TQM) practices has significant effect on competitive advantage.

The standardized coefficient is 0.722, which is statistically significant at prob.<0.05 ($t=6.480$). The implementation of TQM practices may provide the organization a competitive advantage on cost, dependability, innovation, and time to market dimensions. The results also indicate that competitive advantage have significant effect on corporate performance. Higher levels of competitive advantage may lead to improved competitive performance, thus confirming hypothesis 3. The standardized coefficient is 0.336 which is statistically significant at prob.<0.05 ($t=4.357$).

Furthermore, the standardized coefficient of the indirect effect of the TQM practices on corporate performance is 0.243, which is significant at 0.05 level. An analysis from Table III shows that TQM practices not only has a direct and positive effect on corporate performance, but also an indirect and positive effect through competitive advantage variable. The results show that corporate performance is more influenced by competitive advantage than TQM practices. This indicates that TQM practices produces competitive advantage to the organization in the first place, and competitive advantage will, in turn, lead to improved corporate performance. In general, top management and quality managers or production managers in these companies regarded TQM as the first priority for the survival of the company.

According to Krajewski et al. (2006) quality management is defined as one element of operations management and as a management method designed to reach organizational objectives more efficiently, thus enhancing the quality of business resources as well as the competitiveness and vitality of the organization. If TQM practices is implemented properly, it produces a variety of benefits such as understanding customers' needs, improved customer satisfaction, improved internal communication, better problem solving and fewer errors.

The success of a TQM program when its implementation is extended to the entire company. Consequently, effective implementation of TQM is a valuable asset in a company's resource portfolio. TQM practices can produce important competitive capabilities. It could be a source of competitive advantage. Therefore, implementing TQM practices as a competitive weapon can improve both the competitive advantage and corporate performance.

These findings were in line with previous studies. In the literature, TQM practice mostly has been linked directly to organizational performance (Samson and Terziovski, 1999; Sila and Ibrahimpour, 2005; Demirbag et al., 2006; Lakhali et al., 2006; Li et al., 2006; and Han et al., 2007). The findings of this research also indicate the presence of an intermediate measure of competitive advantage between TQM practices and corporate performance.

6. Conclusions, Suggestion, Limitations and Future Research

6.1. Conclusions

The aim of this study was to empirically investigate the impact of TQM practices on competitive advantage and corporate performance at manufacturing companies in Makassar, South Sulawesi. TQM practices has a positive and significant effect on corporate performance and competitive advantage. Competitive advantage has a positive and significant effect on corporate performance. Corporate performance is more influenced by competitive advantage than TQM practices. These findings indicate that TQM practices can produce competitive advantage to the organization in the first place, and competitive advantage in the second place to improve corporate performance. On the other hand, TQM practices provide a better explanation on corporate performance through competitive advantage criteria such as cost, delivery dependability, product innovation and time to market.

6.2. Suggestions

The dominant factor that determines the success of TQM practices is the role of top management or leadership. Therefore, TQM practices must be initiated by the top management. Quality improvement plans proposed by several gurus strongly emphasize the commitment of top management. Managers of the organization are directly responsible for determining appropriate organizational capabilities in supporting their competitive advantage. Managers should also determine quality policy and develop specific measurable goals to satisfy customer expectations and improve their organizations' performance.

6.3. Limitations and Future Research

Number of other factors both internal and external may also mediate TQM practices and corporate performance relationship. Although this study establishes relationship among TQM practices, competitive advantage and corporate performance, other factors such as size, organizational culture, innovative capacities and market orientation every firm may also have some impact on corporate performance.

Issues about market orientation, consumer satisfaction, organizational culture and level of innovation seem to be highly relevant to test in relationship with TQM practices implementation and performance for the future research. The future research could also test these research variables with separate between large and medium-sized enterprises as samples, in order to obtain more specific result. The next research will also have a better generalization power, if the study area is expanded.

References

- Ahire, S.L., Golhar, D.Y., and Waller, M.A. (1996). Development and Validation of TQM Implementation Constructs. *Decision Sciences*, 27 (1): 23-56.
- Anderson, J.C., Rungtusanatham, M., and Schroeder, R.G. (1994). A Theory of Quality Management Underlying the Deming Management Method. *Academy of Management Review*, 19 (3): 472-509.
- Barney, J. (1991). Firms Resources and Sustained Competitive Advantage. *Journal of Management*, 17: 791-400.
- Black, S.E. and Porter, L.J. (1996). Identification of the Critical Factors of TQM. *Decision Sciences*, 27 (1): 1-21.
- Cooper, Donald R. and C. William Emory. (2002). Business Research Methods, Fifth Edition, Chicago: Richard D. Irwin Inc.
- Demirbag, M., Tatoglu, E., Tekinkus, M. and Zaim, S. (2006). An Analysis of the Relationship between TQM Implementation and Organizational Performance: Evidence from Turkish SMEs. *Journal of Manufacturing Technology Management*, 17 (6): 829-47.
- Flynn, B.B., Schroder, R.G., and Sakakibara, S. (1994). A Framework for Quality Management Research and an Associated Measurement Instrument. *Journal of Operations Management*, 11 (2): 339-366.
- Flynn, B.B., and Saladin, B. (2001). Further Evidence on the Validity of the Theoretical Models Underlying the Baldrige Criteria. *Journal of Operations Management*, 19 (3): 617-652.
- Garvin, D.A. (1987). Competing on the Eight Dimensions of Quality. *Harvard Business Review*, Nov-Dec.: 101-109.
- Gaspersz, V. (2005). *Total Quality Management*, Jakarta: Gramedia Pustaka Utama Press.
- Hair Jr., Joseph F., Anderson, R.E., Papham, R.L., and Black, W. (1998). *Multivariate Data Analysis*, 5th edition, New Jersey: Prentice-Hall, Inc.
- Han, S. B., Chen, S. K. and Ebrahimpour, M. (2007). The Impact of ISO 9000 on TQM and Business Performance. *Journal of Business and Economic Studies*, 13 (2): Fall 2007.
- Jung, J. and Wang, Y. (2006). Relationship between total quality management (TQM) and continuous improvement of international project management (CIIPM). *Technovation*, 26 Nop 5-6: 716-22.
- Kanji, G.K., and Wallace, W. (2000). Business Excellence Through customer Satisfaction. *Total Quality Management*, 11 (7): 979-998.
- Kline, R. (1998). *Principles and Practice of Structural Equation Modeling*, New York: Guilford Press.
- Krajewski, L., Ritzman, L. and Malhotra, M. (2006). *Operations Management*, 8th ed., New Jersey, USA: Pearson Prentice-Hall, Upper Saddle River.
- Kruger, V. (2001). Main Schools of TQM: The Big Five. *The TQM Magazine*, 13 (3): 146-155.
- Lakhal, L., Pasin, F. and M. Liman. (2006). Quality management practices and their impact on performance. *International Journal of Quality and Reliability Management*, 23 (6): 625-646.
- Li, Suhong, Bhanu Ragu-Nathan, T.S. Ragu-Nathan, and S. Subba Rao. (2006). The impact of Supply Chain Management Practices on Competitive Advantage and Organizational Performance. *Omega*, 34 (1): 107-124.
- Mentzer, J.T., Min, S., and Zacharia Z.G. (2000). The Nature of Inter-firm Partnering in Supply Chain Management. *Journal of Retail*, 7 (6): 549-568.
- Motwani, J. (2001). Measuring Critical Factor of TQM. *Measuring Business Excellence*, 5 (2): 27-30.

- Porter, M.E. (1985). *Competitive Advantage: Creating and Sustaining Superior Performance*, New York, USA: The Free Press.
- Powel, T.C. (1995). Total Quality Management as Competitive Advantage. *Strategic Management Journal*, 16 (1): 19-28.
- Samson, D. and Terziovski, M. (1999). The Link between Total Quality Management Practice and Organizational Performance. *International Journal of Quality & Reliability Management*, 16 (3): 15-22.
- Saraph, J.V., Benson, G.P., and Schroder, R.G. (1989). An Instrument for Measuring the Critical Factors of Quality Management. *Decision Science*, 20: 810-829.
- Sila, I., and Ebrahimpour, M. (2005). Critical Linkages among TQM Factors and Business Results. *International Journal of Operations & Production Management*, 25 (11): 1123-1155.
- Solimun. (2006). *Modul of Quantitative Method for Management*, Doctor Program in Management Science, FEB Brawijaya university, Malang, Indonesia.
- Statistical Bureau Center of Makassar. (2010). *Makassar in Figures*, Makassar: Makassar Press.
- Stock GN, Greis NP and Kasarda JD. (2000). Enterprise Logistics and Supply Chain Structure: The Role of Fit. *Journal of Operation Management*, 18: 531–547.
- Sugiyono. (2008). *Statistical for Research*, Bandung, Indonesia: Alfabeta Press.
- Tracey M, Vonderembse MA and Lim JS. (1999). Manufacturing Technology and Strategy Formulation: Keys to Enhancing Competitiveness and Improving Performance. *Journal of Operation Management*, 17: 411–428.
- Zairi M., and Youssef M.A. (1995). Benchmarking Critical Factors for TQM Part I: Theory and Foundations. *Benchmarking for Quality Management & Technology*, 2 (1): 5-20.